



Exam VSBO PBL

2025

period 1

Wednesday May 21

7.30 - 9.30 am

Biology

Candidate name _____ Candidate number _____

Answer all questions in this assignment booklet.

This exam is based on healthy organisms in normal situations.

This exam consists of 46 questions.

You can score a maximum of 71 points for this exam.

Before each question number it is stated how many points can be scored with a correct answer.

Multiple-choice questions

- Circle the correct answer (example 1).
- Indicate corrections according to example 2 or 3.

(1) A
 ⓑ
 C
 D

(2) A
 ⓧ
 Ⓒ
 D

(3) B A
 ⓧ
 ⓧ
 D

African snails

3p 1 Read the text in the box below.

The African snail feeds itself with plants.
It needs the right surroundings temperature and
soil in order to live. They lay eggs and these
hatch after about 3 weeks. When the
circumstances are not right, they die.



The table below contains information from the text.

→ Which piece of information refers to a life characteristic?
Indicate this by means of X-marks.

piece of information	is a life characteristic	is not a life characteristic
temperature of the surroundings		
feeding with plants		
laying eggs		
death of the snail		

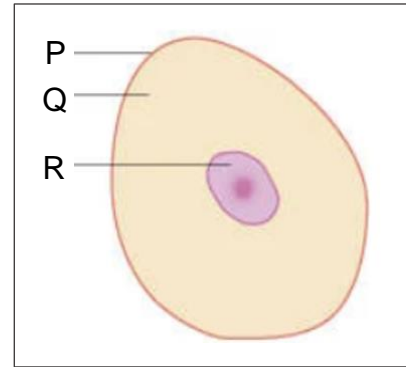
2p **2** The drawing of a cell of the African snail is shown in the picture to the right.

→ Write the names of the parts P, Q and R.

P

Q

R



1p **3** Queeny looks at the drawing of the cell of question number 2.
Queeny says:
“This cell does NOT have the part of a cell that is responsible for photosynthesis”

→ What is the name of the part of a cell that is responsible for photosynthesis?

.....
.....

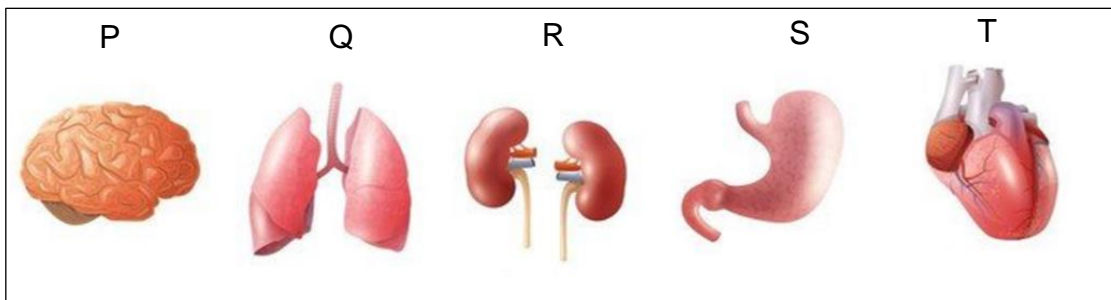
1p **4** Combustion takes place in the cell of the African snail.

→ Why is combustion necessary in the cells of an organism?

- A** To cool down the body.
- B** To clean the blood in the body.
- C** To deliver energy to the body.
- D** To deliver oxygen to the body.

Organs

- 2p 5 Five organs are shown in the picture below.



In the sentence 1a here below, the fill-in must be the letter of an organ.

In the sentence 1b, the fill-in must be name of that organ.

The same applies to sentences 2a and 2b and also to sentences 3a and 3b.

→ Complete each sentence here below. Fill in the correct letter from the picture and fill in the corresponding name of the organ.

1a. The organ with the **letter** is needed for **digestion**.

1b. This organ **is called**

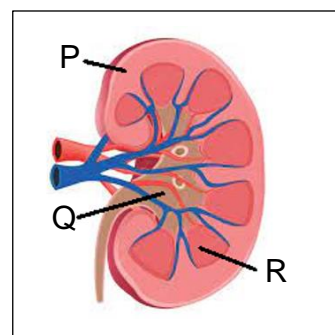
2a. The organ with the **letter** is needed for **gas exchange**.

2b. This organ **is called**

3a. The organ with the **letter** is needed for **perception**.

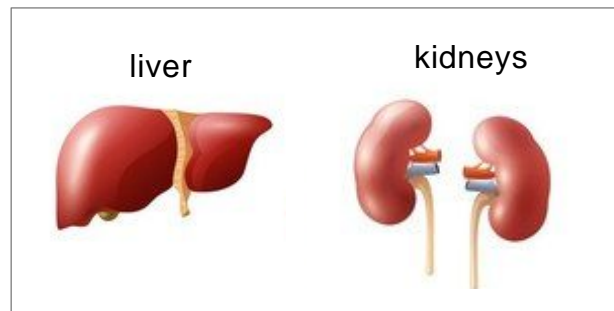
3b. This organ **is called**

- 2p 6 In the picture below, a drawing of a cross-section of the kidney is shown. The letters P, Q and R point to three parts of the kidney.



letter	name of part
P	
Q	
R	

- 1p 7 In the picture to the right, a picture of the liver and a picture of the kidneys are shown. The liver and the kidneys work together.



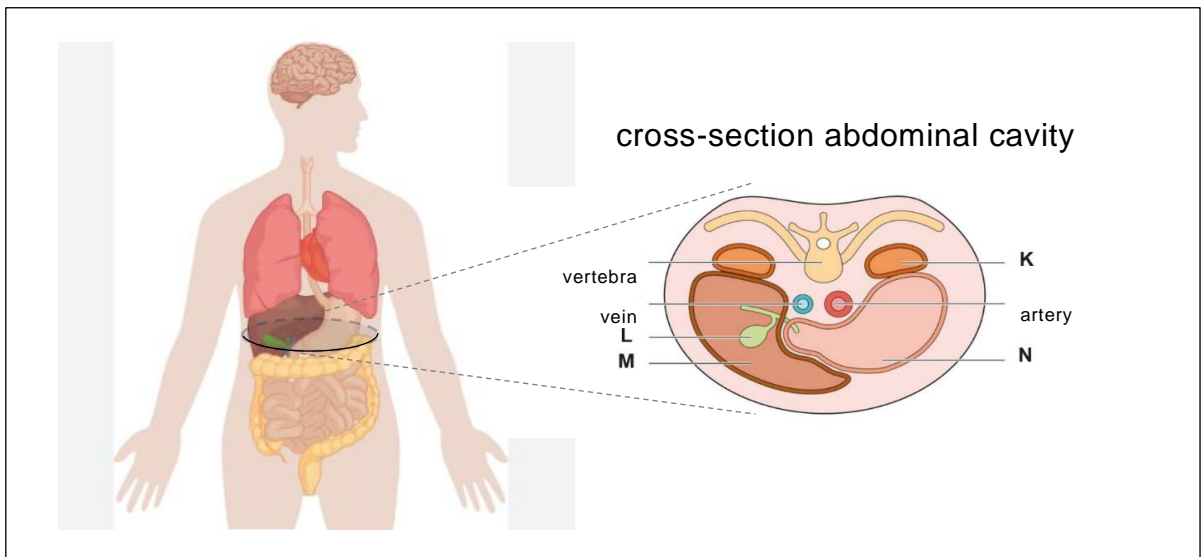
Below is a sentence that describes this collaboration.

The liver removes ... (1) ... from the blood and passes it on to the kidneys, which will excrete it.

→ What word should be in space (1)?

(1).

- 2p 8 The picture below shows a drawing of a cross-section of the abdominal cavity of a human.



The letters K, L, M and N point to four organs.

Hereafter is a list of names of organs:
lungs, stomach, gall bladder, intestines, liver, kidney, pancreas, urinary bladder.

letter	name of the organ
K	
L	
M	
N	

→ Write the names of the organs K, L, M and N in the table above.
 Choose from the list of names given.

Plants

- 1p 9 In the picture to the right, a bean plant is shown. The beans of a plant are rich in a particular nutrient.

→ Which nutrient is that?

- A fats
- B proteins
- C minerals
- D carbohydrates



- 1p 10 The root of a plant is very important for the survival of the plant. The root keeps the plant firmly in the ground and the root takes water out of the ground.

→ What is another function of the root?

- A take glucose out of the ground
- B take oxygen out of the ground
- C take minerals out of the ground
- D take carbon dioxide out of the ground

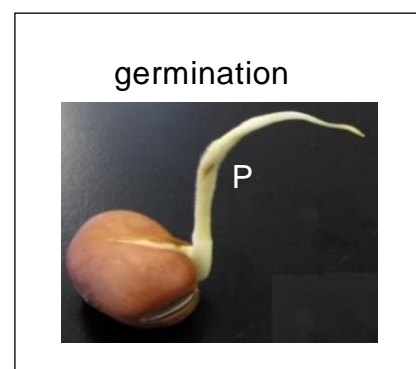
The peanut plant

- 1p 11 In the picture to the right, the germination of a peanut plant is shown. Part P comes out of the seed.

→ What applies to part P?

Part P is the part that grows out to become ...

- A the legume.
- B the leaf.
- C the root.
- D the stem.



- 2p 12 Poi the rat, a house in the woods and Clara the owl are shown in the pictures below.



The house and the shed in the woods are surrounded by many plants and trees in the woods. Especially at night, in the dark, Poi the rat goes into the shed to look for peanuts. Clara the owl can see well in the dark and can pounce on a prey.

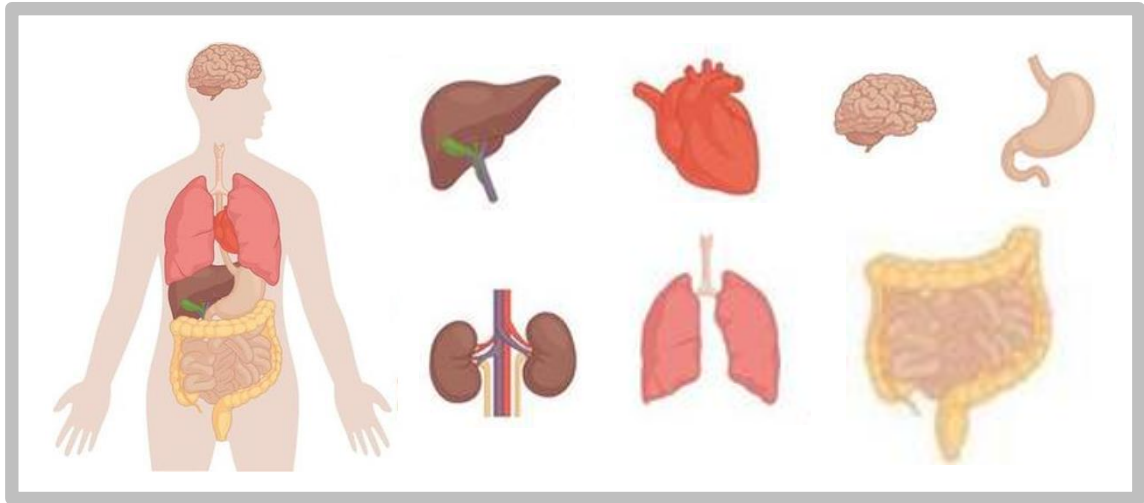
→ Use the text above to create a food chain of three links. Do this in the box below.

- 1p 13 → Which nutrient does a peanut **most** give to Poi the rat?

- A fat
- B water
- C minerals
- D vitamins

The digestive system

2p 14 Below, the blackboard in the Biology classroom of teacher Mirla is shown.



Teacher Mirla will now cover the digestive system.

→ Draw a circle around each organ that belongs to the digestive system.

2p 15 Consumers, such as animals, can be classified into three groups:
herbivores, ***carnivores*** and ***omnivores***.

The table below contains information about the type of food that a lion, a dog and a goat eat.

→ Fill in the group that each animal belongs to:
herbivores, ***carnivores*** or ***omnivores***. Do this in the table.

animal	type of food	group
lion	zebras and deer	
dog	meat, vegetables, rice, pasta, potatoes, bread	
goat	grass, leaves, branches	

- 2p 16 The liver has several functions and therefore carries out several tasks to maintain the body.

→ In the table below, indicate for each task mentioned, whether it is, or it is not, a task of the liver. Use X-marks.

task	<i>is</i> a task of the liver	<i>it is not</i> a task of the liver
Breakdown of poisonous substances.		
Production of red blood cells.		
Production of gall.		

- 2p 17 Digestion takes place in the digestive system.
Below is a statement about digestion. In the statement there are two groups of choice words in dotted boxes.

→ Make the statement a true statement. Underline the correct choice words.

In the

<i>small intestine,</i>
<i>large intestine,</i>
<i>rectum,</i>

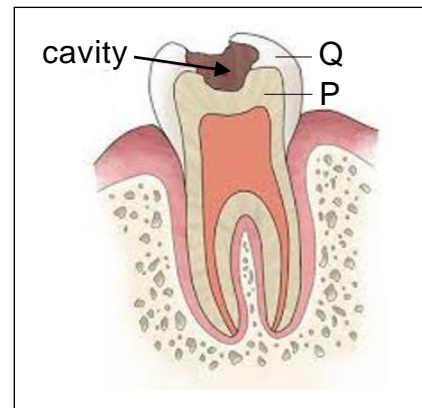
 the

<i>foods are</i>
<i>nutrients are</i>
<i>dietary fiber is</i>

 split into small parts

to be absorbed into the blood via the intestinal wall.

- 1p 18 Jeanette has a cavity in her tooth. The dentist has created the drawing to the right. The drawing shows that the cavity has already affected two layers P and Q of the tooth.



→ What are the names of the layers P and Q that have been affected?

- A cement and root
- B cement and enamel
- C dentine and root
- D dentine and enamel

- 1p 19 Fluoride is necessary for strong teeth. The dentist advised Jeanette to eat more foods that are rich in fluoride.

→ To which group of nutrients does fluoride belong?

- A fats
- B vitamins
- C minerals
- D carbohydrates

- 1p 20 Because of her toothache, Jeanette has not eaten much for several days, which means she is consuming less glucose. Due to a shortage of glucose in the blood, she feels weak. The body uses glucose. Some examples of this are use as building material, as fuel, and as reserve material.

→ What is glucose **most** used as?

- A as building substance
- B as fuel
- C as reserve substance
- D as a protective substance

Metabolism

1p 21 The pictures below show two animals on Curaçao, an iguana and a deer.

Curaçao iguana



Curaçao deer



A Curaçao iguana is **cold-blooded**.

A Curaçao deer is **warm-blooded**.

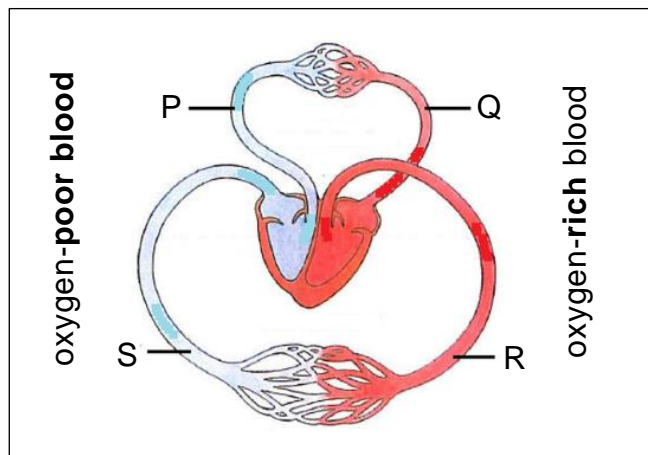
→ Which animal's body temperature depends on the temperature of its environment?

- A the deer
- B the iguana
- C both animals
- D none of these two animals

Blood circulation

- 2p 22 Blood circulation is represented in the picture below.
The letters P, Q, R and S point to blood vessels.

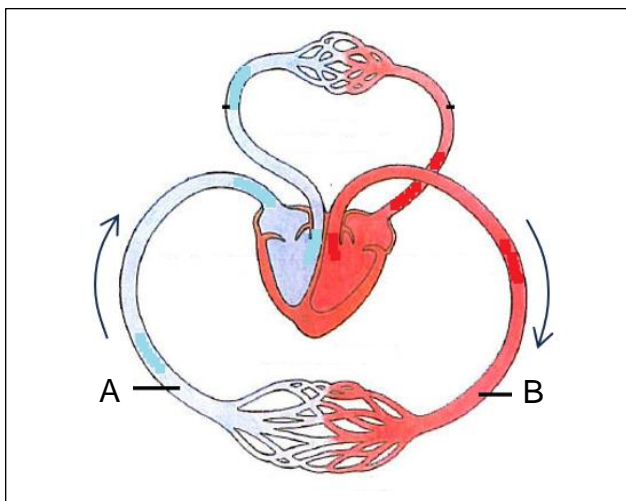
→ What applies to blood vessels P, Q and R?
Which is a **vein** and which is an **artery**?
Indicate in the table by means of X-marks.



letter	vein	artery
P		
Q		
R		

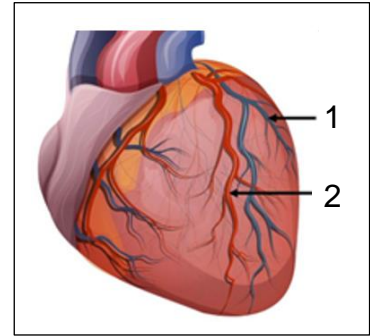
- 1p 23 Blood circulation is represented in the picture below.
Letters A and B point to blood vessels.

→ Do these two blood vessels have valves?
Indicate in the table by means of X-marks.



letter	have valves	have no valves
A		
B		

- 2p 24 The heart is represented to the right.
Number 1 points to an oxygen-poor blood vessel
and number 2 points to an oxygen-rich blood
vessel.



→ Write the names of the blood vessels 1 and 2.

Choose from:

coronary artery, portal vein, coronary vein, aorta.

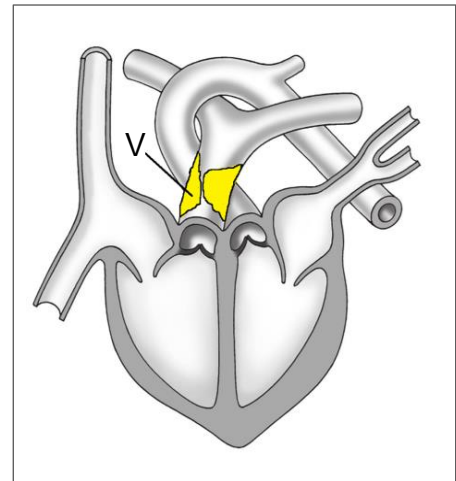
Blood vessel 1 is called

Blood vessel 2 is called

- 1p 25 In the picture to the right, the letter V points
to the blockage in a blood vessel.

→ What is the blocked blood vessel called?

- A the pulmonary artery
- B the coronary artery
- C the cerebral artery

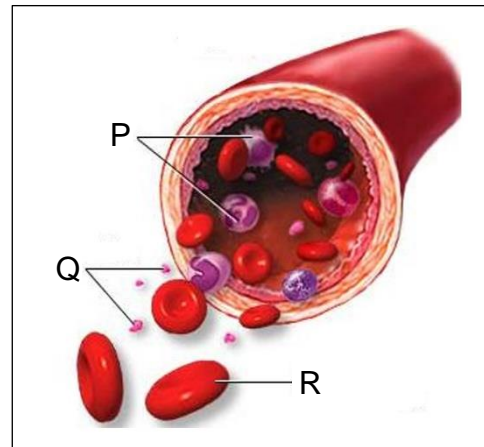


Blood

- 2p **26** In the picture to the right, the letters P, Q and R point to three blood parts.

Genaro has anemia. This means his blood has a shortage of a certain blood part. This makes his blood transport less oxygen, which causes Genaro to quickly become tired.

→ Complete the sentences below.
Fill in the correct letter and name.



- 1). Genaro has a shortage of the blood part with the letter
- 2). This blood part is called:

- 1p **27** In Genaro's case, too little of the blood parts P, Q and R are produced. The reason for this is probably the poor functioning of one organ system.

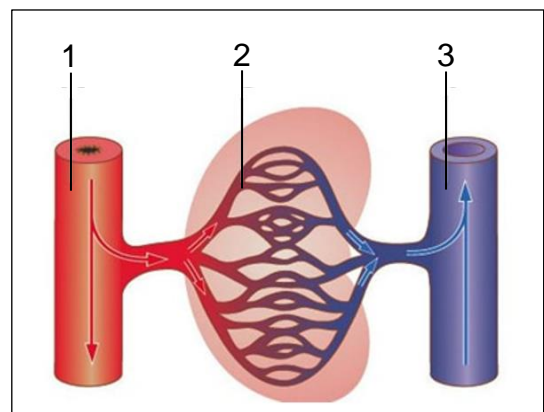
→ Which of Genaro's organ systems probably does NOT work well?

- A** the muscular system
- B** the nervous system
- C** the hormonal system
- D** the skeletal system (skeleton)

- 1p **28** In the picture to the right, the numbers 1, 2 and 3 point to three parts of the vascular system.

Oxygen goes to the tissues and to cells from one of these three parts.

→ From which of the three parts is that?



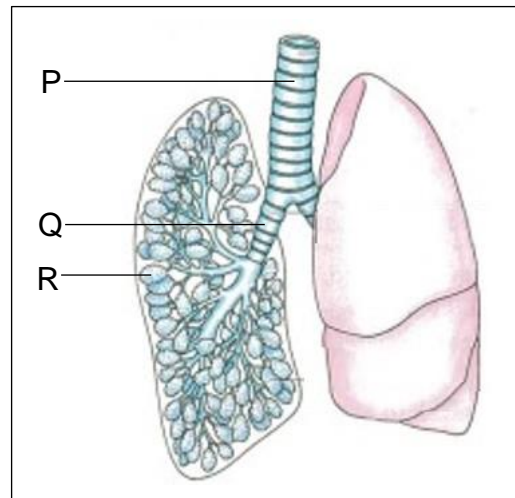
- A** from 1
- B** from 2
- C** from 3

Respiration

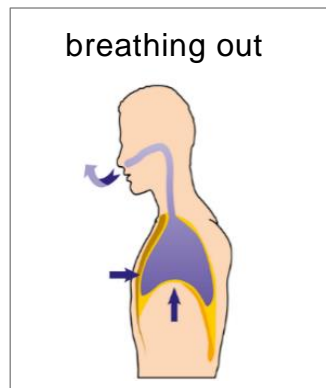
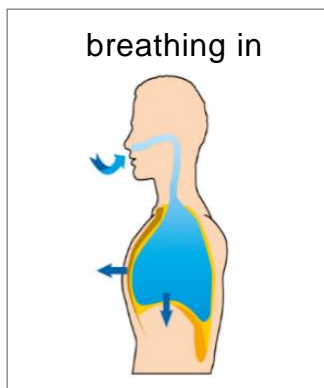
- 2p 29 In the picture to the right, the lungs are shown.

→ In the table below, write the names of parts P, Q and R.

letter	name of the part
P	
Q	
R	



- 2p 30 The pictures below represent respiration.



Below is a statement about the movement that Naomi's lungs make during coughing. The statement contains choice options in dotted boxes.

→ Underline the choices that make the statement a true statement.

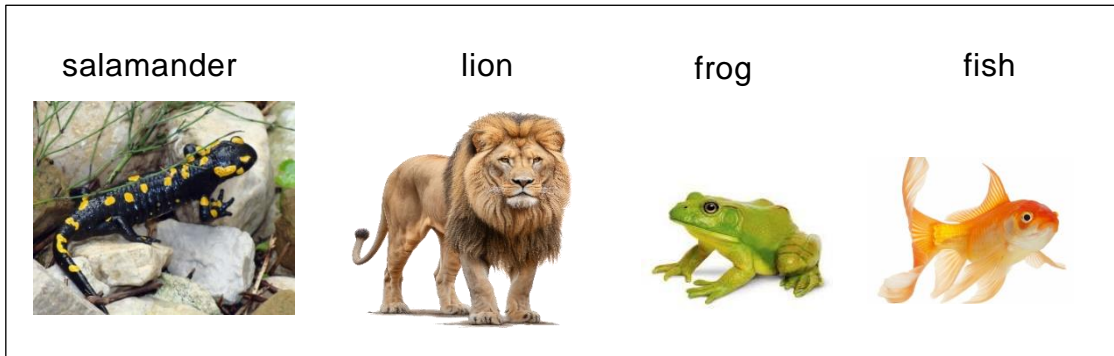
During coughing, the lungs move as when

breathing in
breathing out

so that Naomi can

take in more fresh air.
cast disease-causing germs out of the lungs.
cast out extra oxygen.

- 2p 31 Four animals are pictured below:
a salamander, a lion, a frog and a fish.



A salamander is an amphibian that has two types of respiratory organs: the lungs and the skin.

→ Indicate, using X-marks, the organ or organs each animal uses to breathe. Do this for the lion, the frog, and the fish.

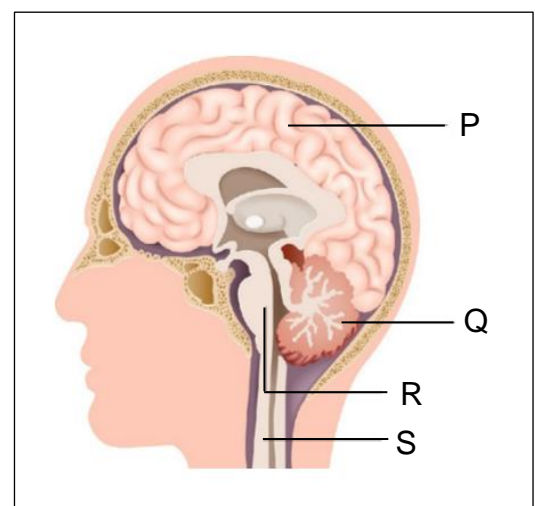
animal	lungs	skin	gills
salamander	x	x	
lion			
frog			
fish			

The senses

- 1p 32 In the picture to the right, the letters P, Q, R and S, point to four parts of the nervous system

→ Which letter points to the brain stem?

- A letter P
- B letter Q
- C letter R
- D letter S



- 1p 33 Jody walks into the room and smells a bad odor. As if something is rotting. Below are four reactions of Jody.

1. She smells a bad odor and shouts "Whaaaaah".
2. She immediately opens the window in the room.
3. She moves furniture in search of perhaps a dead mouse.
4. She calls her mother after looking around herself.



→ Which reaction is a reflex?

- A reaction 1
- B reaction 2
- C reaction 3
- D reaction 4

- 1p 34 A "close up" photo of Jody's eye is pictured to the right. Jody opens the window and immediately gets more sunlight in her eye. Her eye reacts to that.



Four reactions of her eye are pictured below.

The pupil gets smaller.



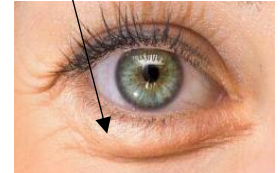
The pupil gets bigger.



The eye color changes.



The eyelid gets thicker.

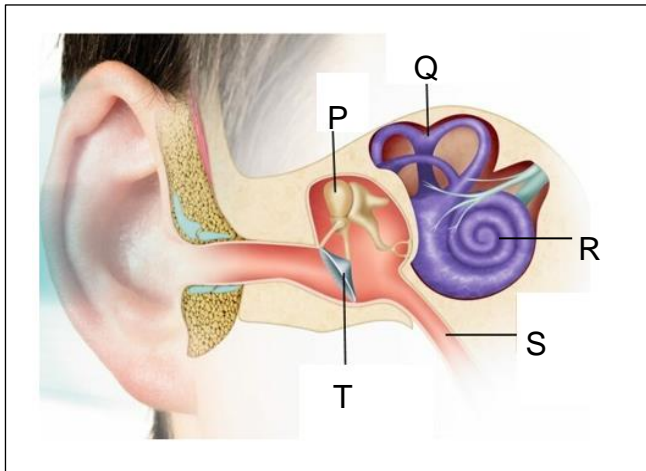


→ How does the eye react when exposed to extra sunlight?

- A the pupil gets smaller
- B the pupil gets bigger
- C the eye color changes
- D the eyelid gets thicker

- 2p 35 In the picture below, the letters P, Q, R, S and T point to five parts of the hearing organ. Four parts are mentioned in the table below.

→ At each name in the table, write the corresponding letter in the picture.



name	letter
balance organ	
Eustachian tube	
ossicles	
cochlea	

- 1p 36 Here below are two statements about part R in question 35.

I: Part R converts **vibrations** into **impulses**.

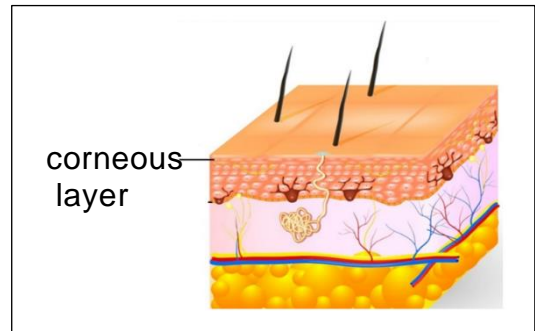
II: Part R converts **impulses** into **vibrations**.

→ What applies to these statements?

- A only statement I is true
- B only statement II is true
- C statements I and II are both true
- D statement I and II are both false

- 1p 37 The skin is represented in the picture to the right.
The corneous layer is the upper layer of the skin.

The table below contains statements about the corneous layer.



→ For each statement, indicate whether it is true or false. Use X-marks.

statement	true	false
The corneous layer protects the body against disease-causing agents.		
Regulation of body temperature takes place in the corneous layer.		

Regulation

- 2p 38 Je-jun likes fruit. The picture to the right shows how he sees fruit on the table and that he would like to have the fruit.

In the box below, the words **the central nervous system**, **impulses** and **stimuli** have been left out for (1), (2) and (3).



Rays of light are ... (1) ... that are converted into ... (2) ... that are guided to the ... (3)

→ Which bold-printed word must be filled in for (1), for (2) and for (3)?
Write them here below in the correct places.

(1).

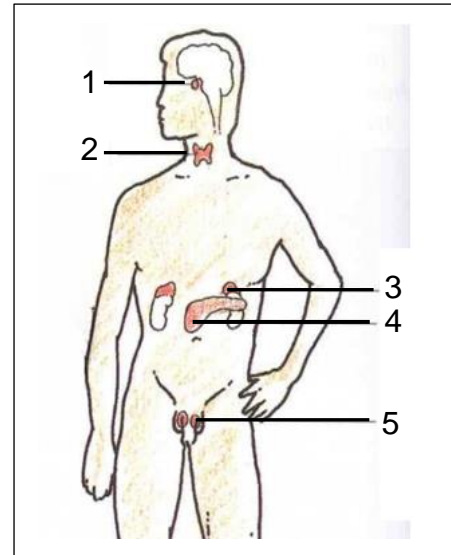
(2).

(3).

- 2p 39 In the picture to the right, the numbers 1, 2, 3, 4 and 5 point to hormonal glands.

Three hormonal glands are:
the **thyroid gland**, the **adrenal glands** and
the **testes (testicles)**.

→ Which three numbers point to these three hormonal glands?
Fill in the correct numbers below.



The thyroid gland is indicated by the number

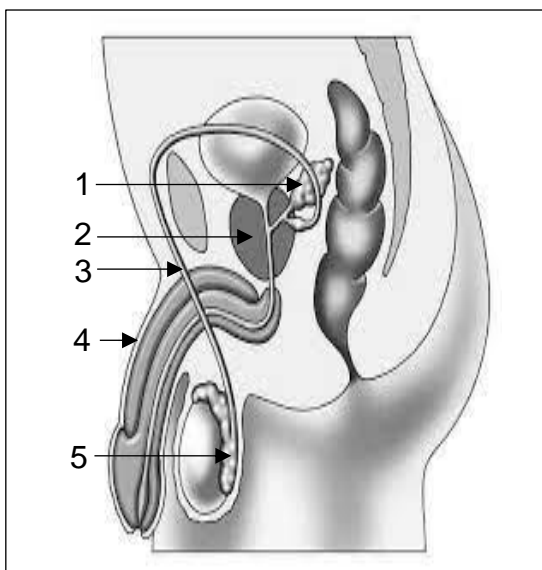
The adrenal glands are indicated by the number

The testicles are indicated by the number

Reproduction

- 2p 40 In the picture below, the numbers 1, 2, 3, 4 and 5 point to parts of the male reproductive organ.

→ Write the names: **sperm duct**, **seminal vesicle**, **prostate** and **epididymis** in the correct spaces in the table next to the picture.



number	name of part
1.	
2.	
3.	
4.	penis
5.	

41 The following list of six bold-printed words is given:

abdomen, scrotum, sperm, sperm cells, epididymis, testicles

Below are two statements about the male body.

The statements contain three open spaces: (1), (2) and (3).

I. The testicles and epididymis are located in the ...(1)...

II. The testicle makes ... (2)... and these are stored in the ...(3)...

→ Which bold-printed word must be filled in for (1), for (2) and for (3)?
Write them down below in the correct places.

(1). (2).

(3)

42 The following is a list of five bold-printed words related to sexuality:

love, experience of pleasure, reproduction, childbirth and
homosexual.

Below, at 1), 2) and 3), three situations are described.

→ For each situation, write down the bold-printed word that fits the situation. Do this next to the situation.

<u>situation</u>	<u>word that fits this situation</u>
1). Harry very much enjoys sex with his girlfriend.
2). Dwayn and Mia would love to have a baby, after being married for 3 years.
3). In the class it seems as if Gideon and Tanisha cannot do one second without looking at each other.

- 2p 43 Four sentences are given about the beginning of a pregnancy.
There is a letter next to each sentence.

Fertilization takes place in the Fallopian tube. (A)

The embryo nestles itself in the endometrium. (B)

An egg cell is released during ovulation. (C)

A placenta (afterbirth) is formed. (D)

These sentences are NOT listed in the correct sequence of events.

→ Below, write down the letters A, B, C and D in the correct sequence in which these events take place.

order	<i>first</i>	<i>second</i>	<i>third</i>	<i>fourth</i>			
letter	→	→	→

- 1p 44 Giana is 38 years old and she is pregnant.
Her gynecologist wants her to do an amniocentesis. Amniocentesis is an examination of the fetus.

This examination, amniocentesis, is only done by her gynecologist because of Giana's age.



→ What is the gynecologist's trying to find out by doing this test?

With regard to the fetus, he wants to know about ...

- A possible abnormalities.
- B the gender.
- C the blood group.
- D the weight.

Reproduction of plants

- 1p 45 The picture to the right shows a cactus with a flower. The seeds of the cactus are formed in the flower.



→ In what part of the flower are the seeds formed?

- A in the sepals
- B in the petals
- C in the stamen
- D in the ovaries

- 1p 46 To the right , the picture of the flower with the bee is shown in enlarged form. The bee plays a certain role in the reproduction of the cactus. Below is a bold-printed sentence about the role of the bee.



In the reproduction of the cactus, the bee is responsible for ...

→ What should the ending of this sentence be?

.....